IN THE CLAIMS

Claims 1-18 (Cancelled).

19.(Previously Added) An apparatus for adaptively generating an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia.

20.(Previously Added) The apparatus of Claim 19, wherein the apparatus further comprises a controller circuit that has a controller gain that is adapted in a fixed range as a function of adaptive parameter data.

21.(Previously Added) The apparatus of Claim 20 further comprising:
    an adaptive system generating the adaptive parameter data
        according to an update equation.

22.(Previously Added) The apparatus of Claim 21 wherein the adaptive system generates the adaptive parameter data based on both the torque and the inertia.

23.(Previously Added) The apparatus of Claim 20 wherein the controller circuit is a discrete controller.

24.(Previously Added) The apparatus of Claim 23 further comprising an actuator, and wherein the output comprises a controlled electric current coupled to the actuator.

25.(Previously Added) The apparatus of Claim 24 wherein the controlled electric current is controlled by pulse width modulation.

26.(Previously Added) The apparatus of Claim 24 wherein the controller circuit further comprises a digital-to-analog converter providing the controlled electric current.

27.(Previously Added) The apparatus of Claim 24 wherein the sensed position signal is derived from a read/write head.

28.(Previously Amended) An apparatus comprising:
    adaptive parameter data based on at least one of a torque
        and an inertia; and
    a controller circuit for receiving a sensed position signal
        and adapted to receive reference data indicating a
        desired position, for adaptively generating an output
        which is based on the adaptive parameter data.

29.(Presently Amended) The apparatus of Claim 28 wherein the controller circuit comprises a first and second controllers that are stable.

30.(Previously Added) The apparatus of Claim 29 wherein the first and second controllers use an error model.

31.(Previously Added) The apparatus of Claim 28 wherein the sensed position signal is sensed by a read/write head.

32.(Presently Amended) A method comprising the step of adaptively generating the an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia.

33.(Previously Added) The method of Claim 32 wherein the output is controlled based on adaptive parameter data.

34.(Previously Added) The method of Claim 33 wherein the adaptive parameter data is updated based on at least one of a torque and an inertia.

35.(Previously Amended) A method comprising the step of adaptively generating an output responsive to a sensed position signal, a desired position signal and at least one of a torque and an inertia, wherein the output is controlled based on adaptive parameter data that is updated based on at least one of a torque and an inertia and wherein the adaptive parameter data is updated digitally in real time using instructions stored in a computer readable program storage device.

36.(Previously Added) The method of Claim 32 wherein the output is coupled to a voice coil motor in a disc drive.